



An Introduction to Macro Photography

Raymond Sheh

Presented at the UNSW Photo Club
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Outline

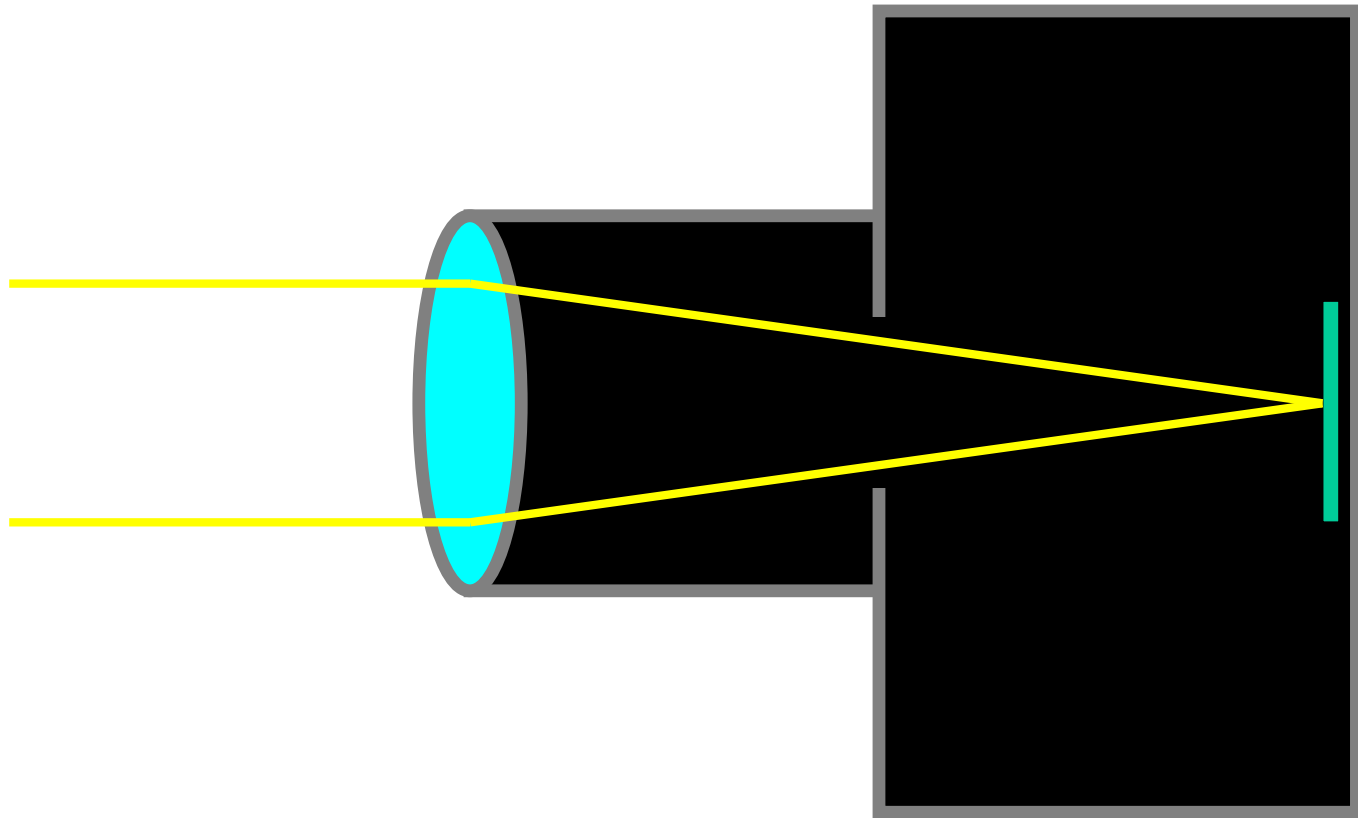
- Photographic Principles
- Equipment
- Technique
- Finding subjects
- Hands-On

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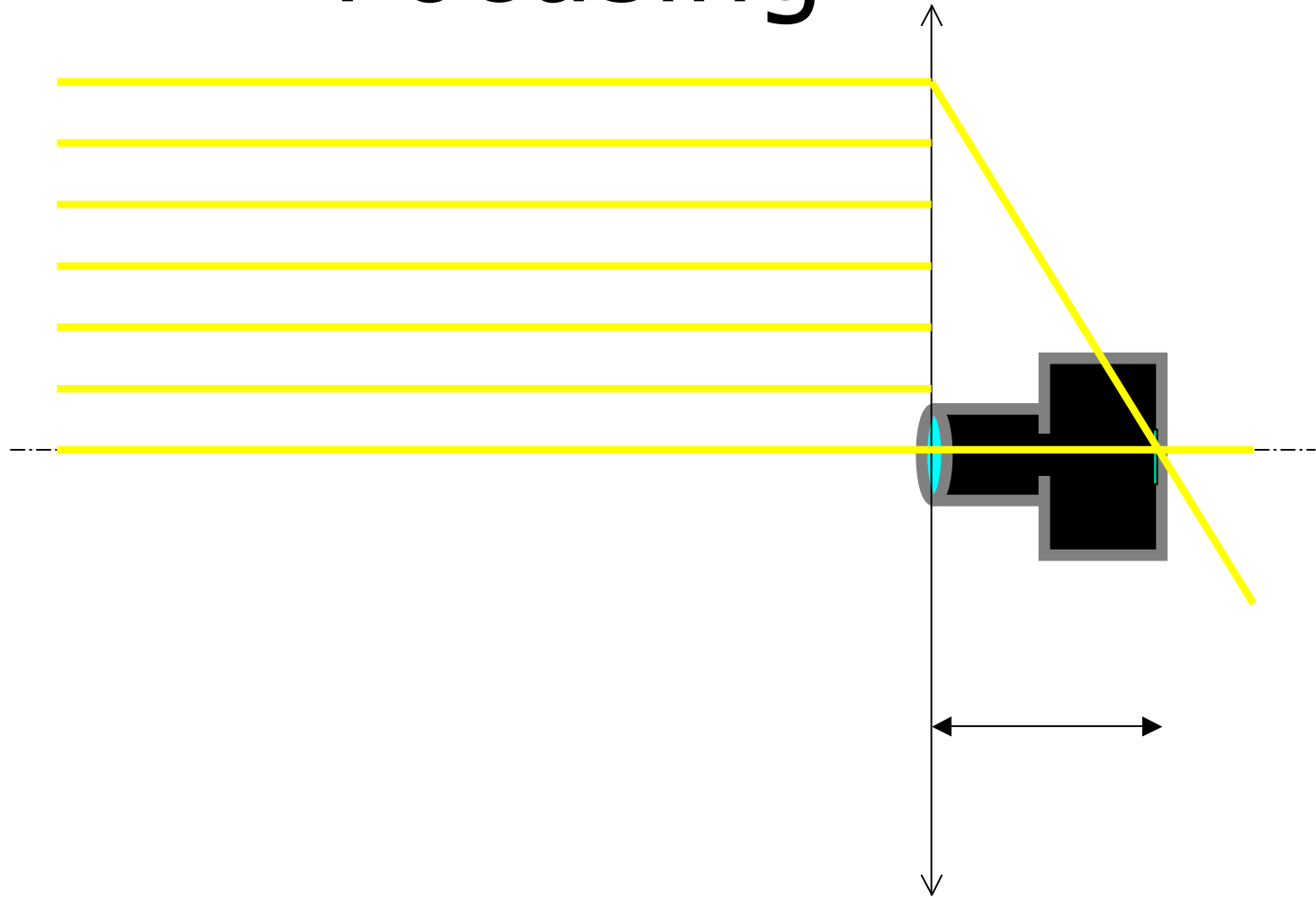
Photographic Principles: Focusing

- To focus close to the camera, we need to move the lens away from the sensor.

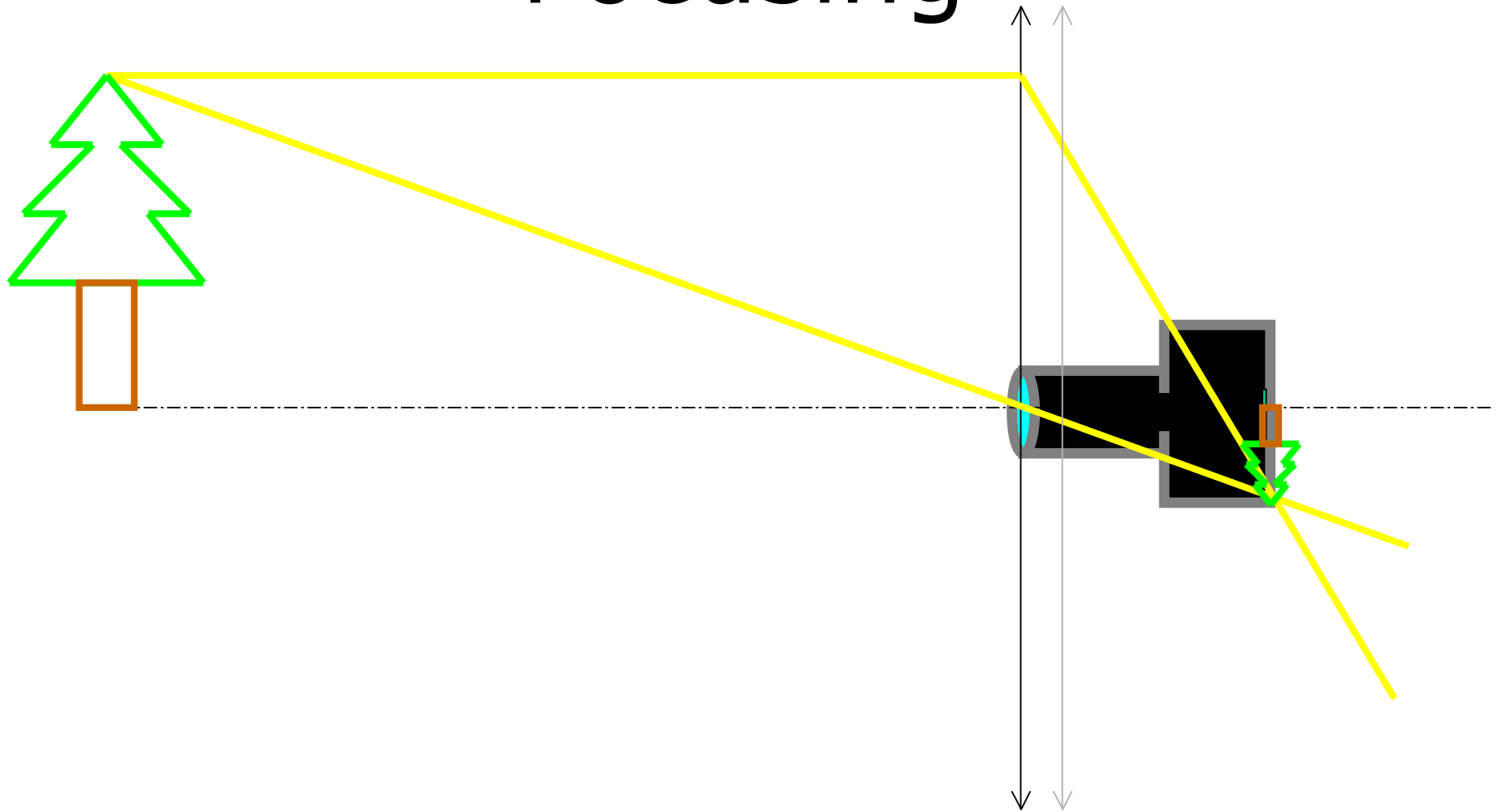
Photographic Principles: Focusing



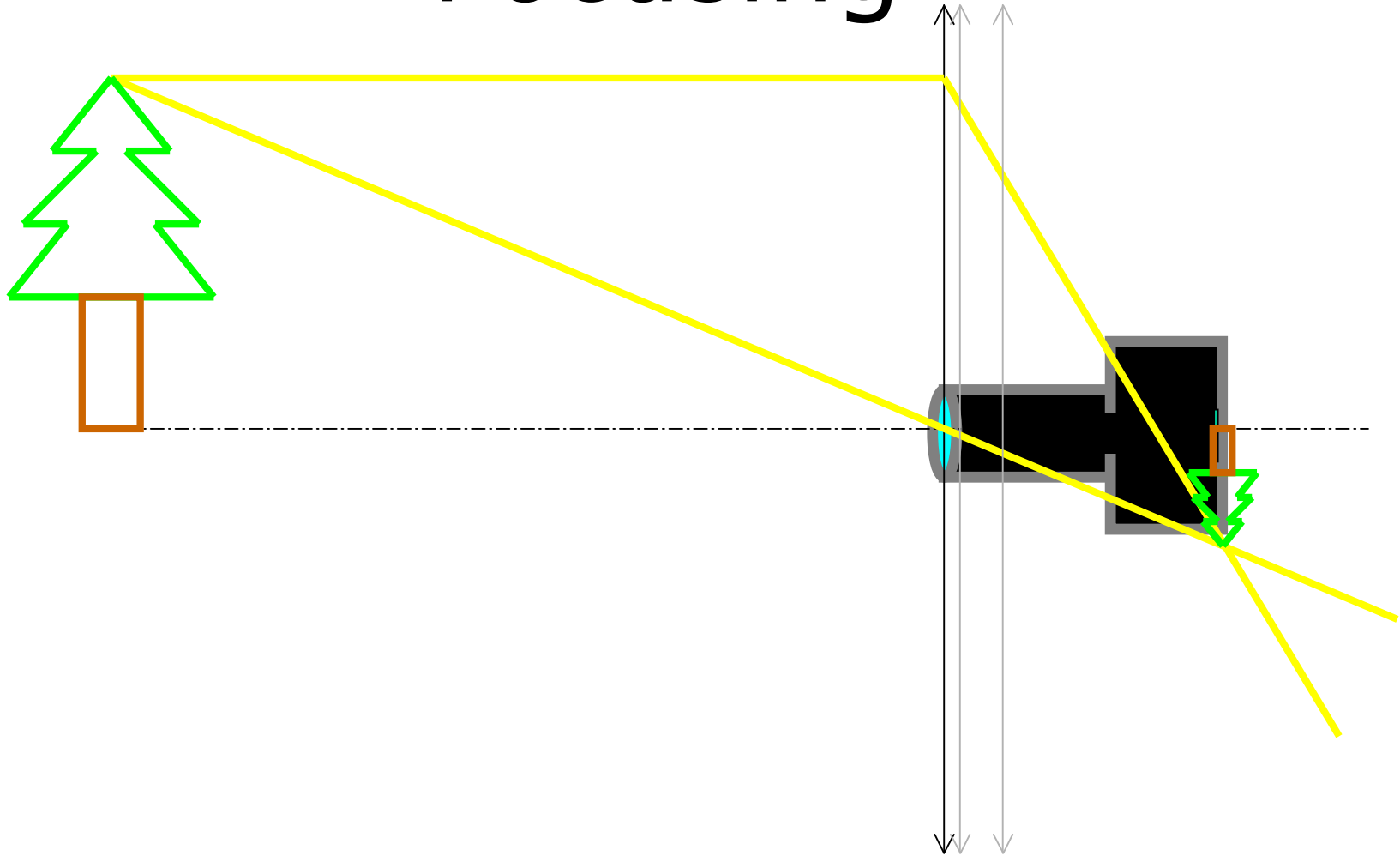
Photographic Principles: Focusing



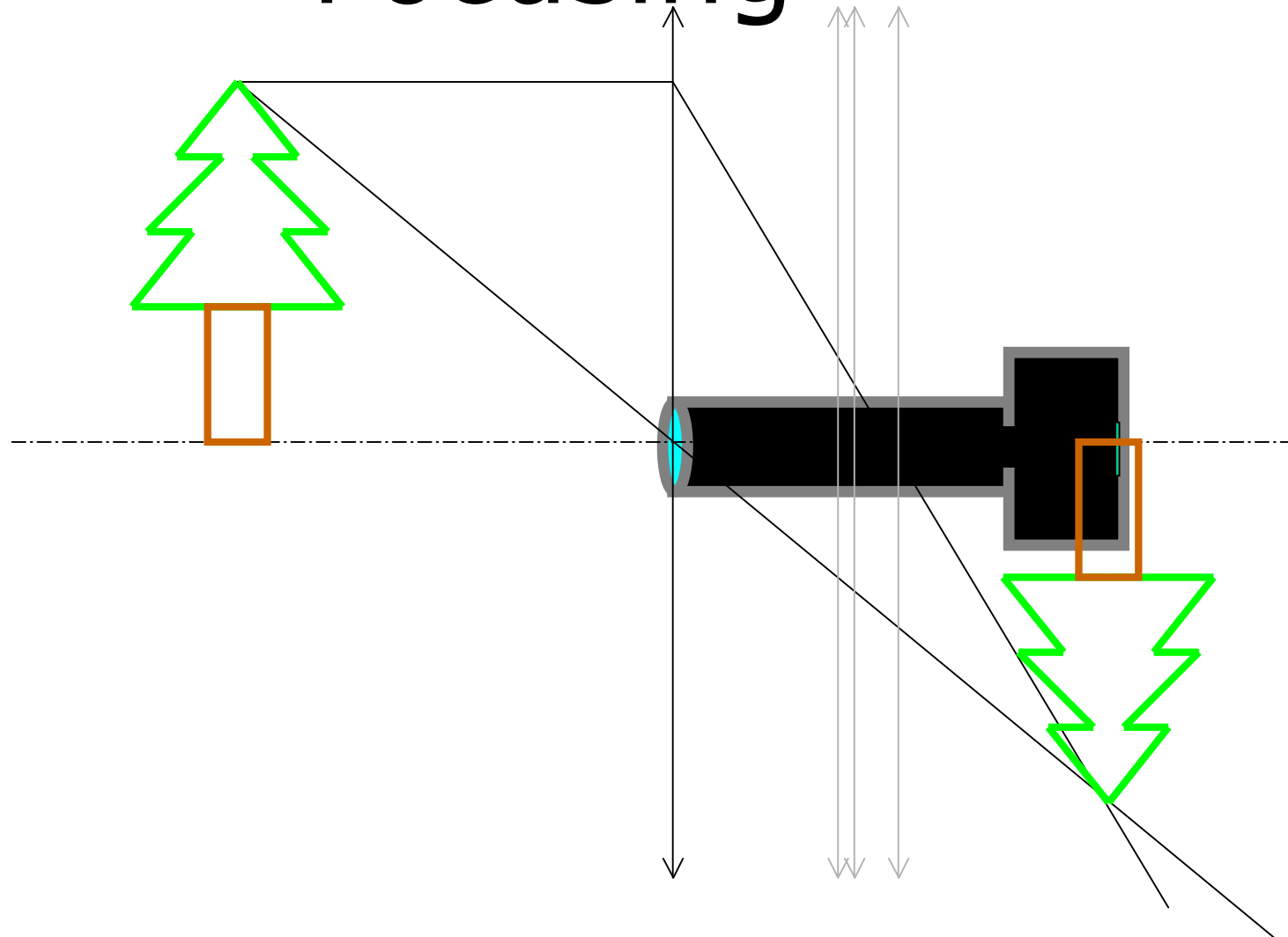
Photographic Principles: Focusing



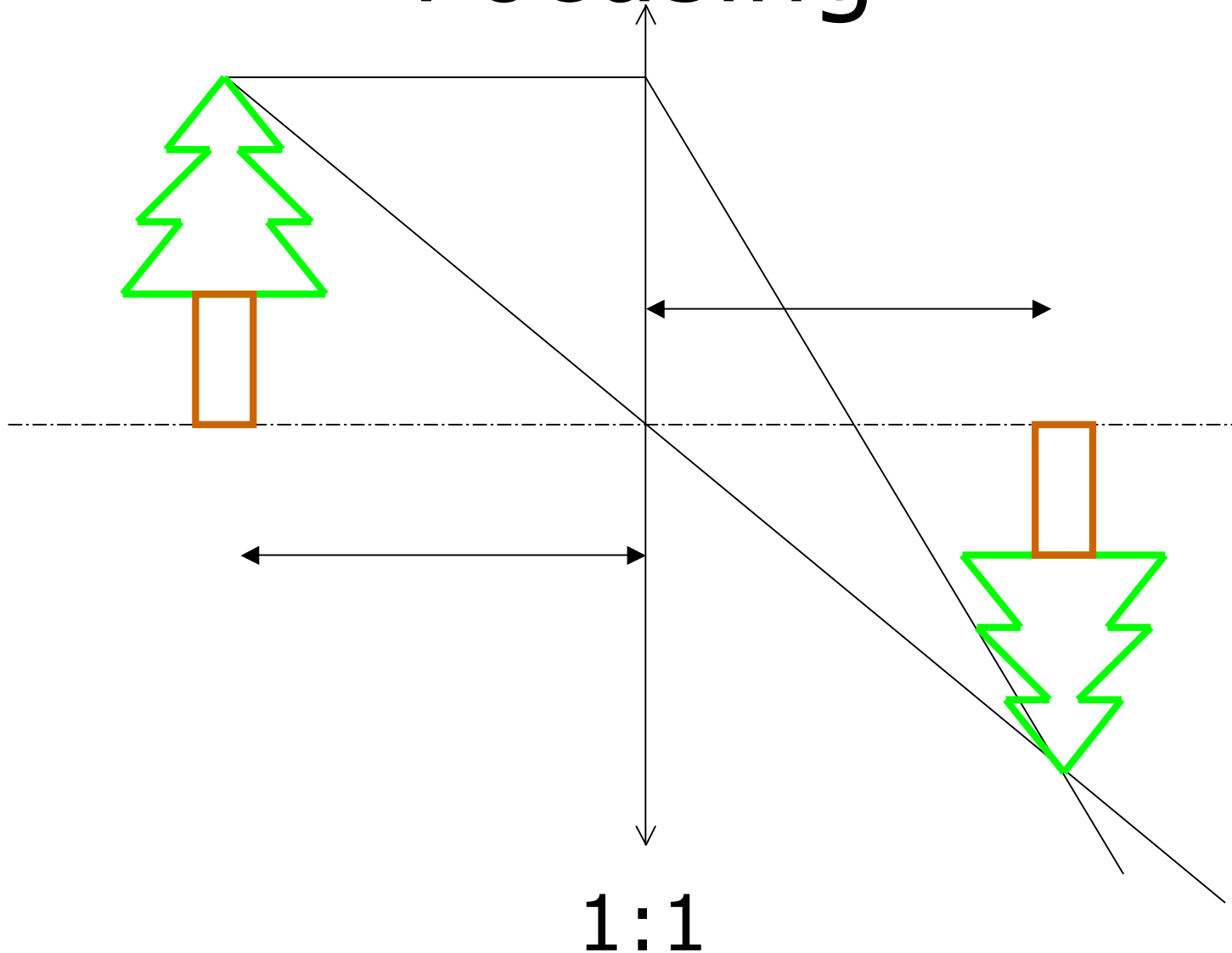
Photographic Principles: Focusing



Photographic Principles: Focusing



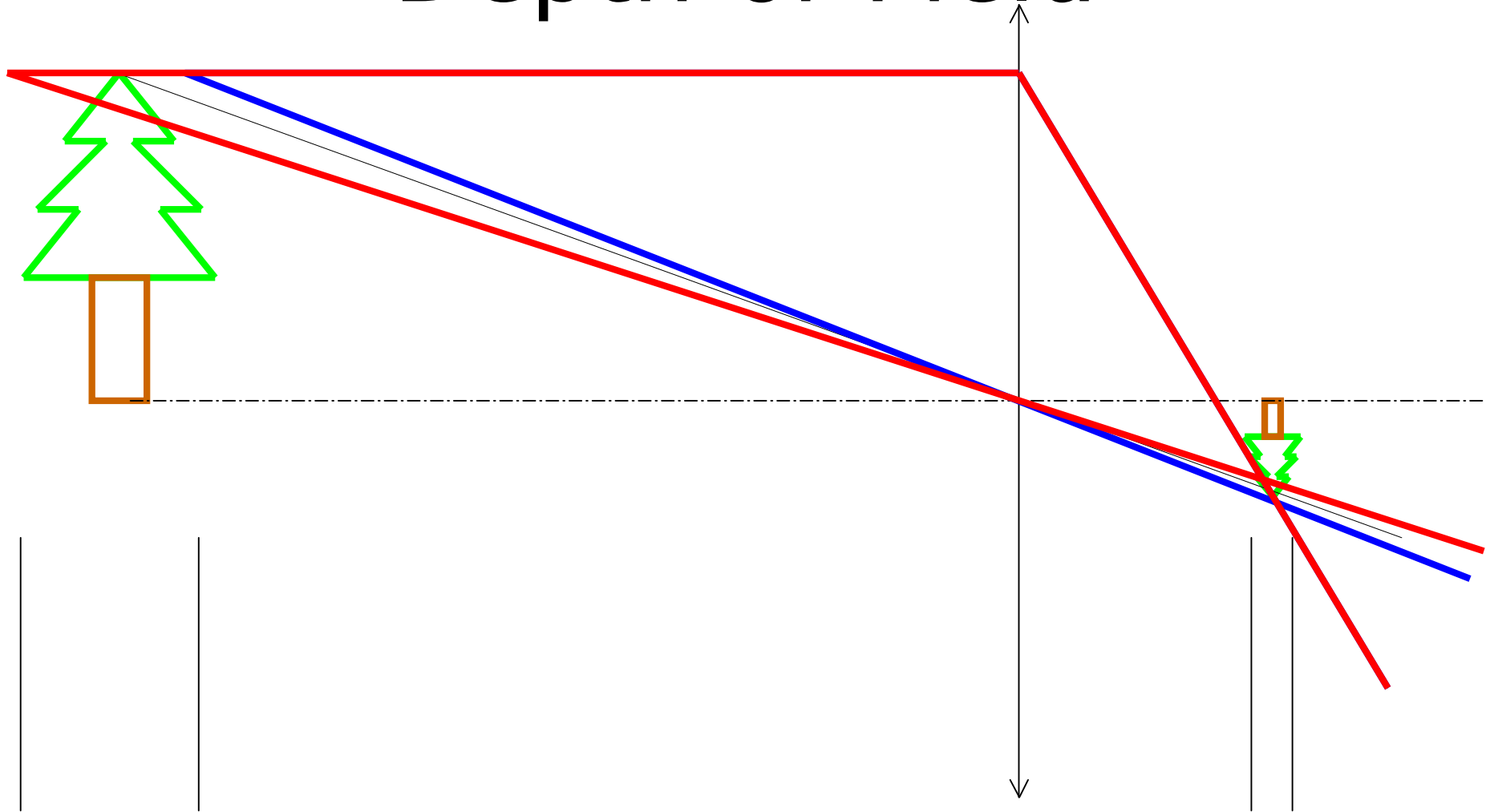
Photographic Principles: Focusing



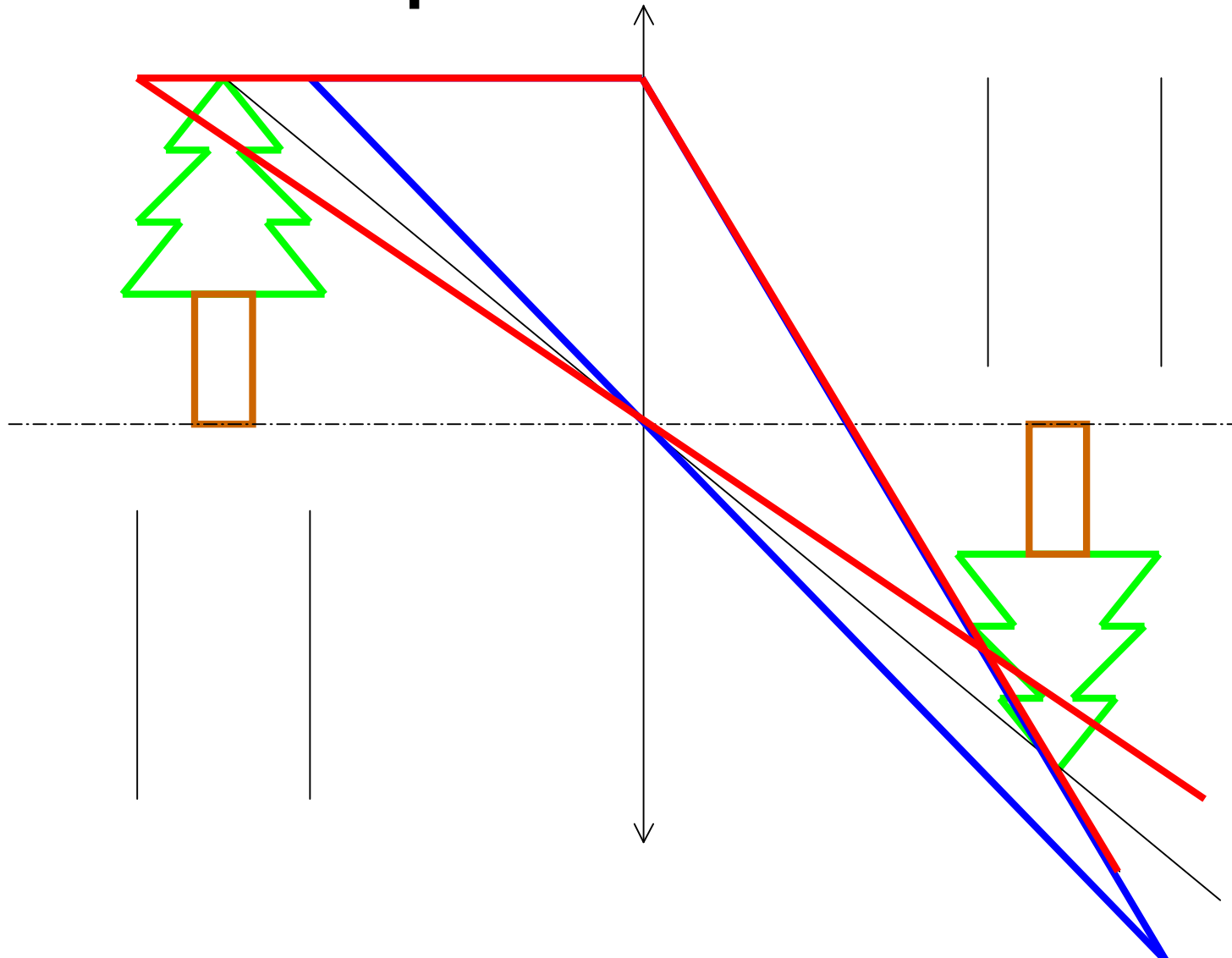
Photographic Principles: Depth of Field

- This causes the main characteristic with macro photography – a lack of Depth of Field (DOF).

Photographic Principles: Depth of Field



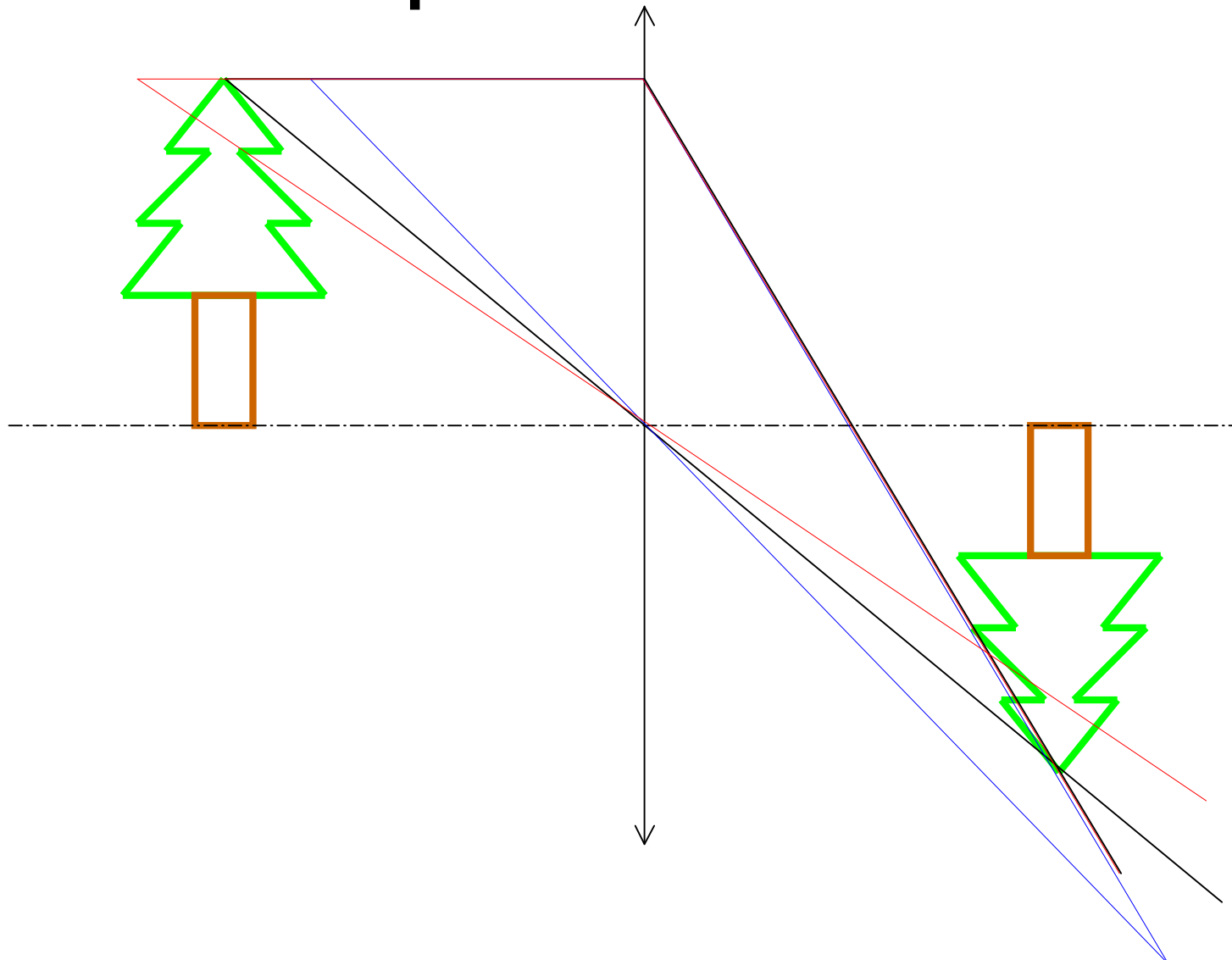
Photographic Principles: Depth of Field



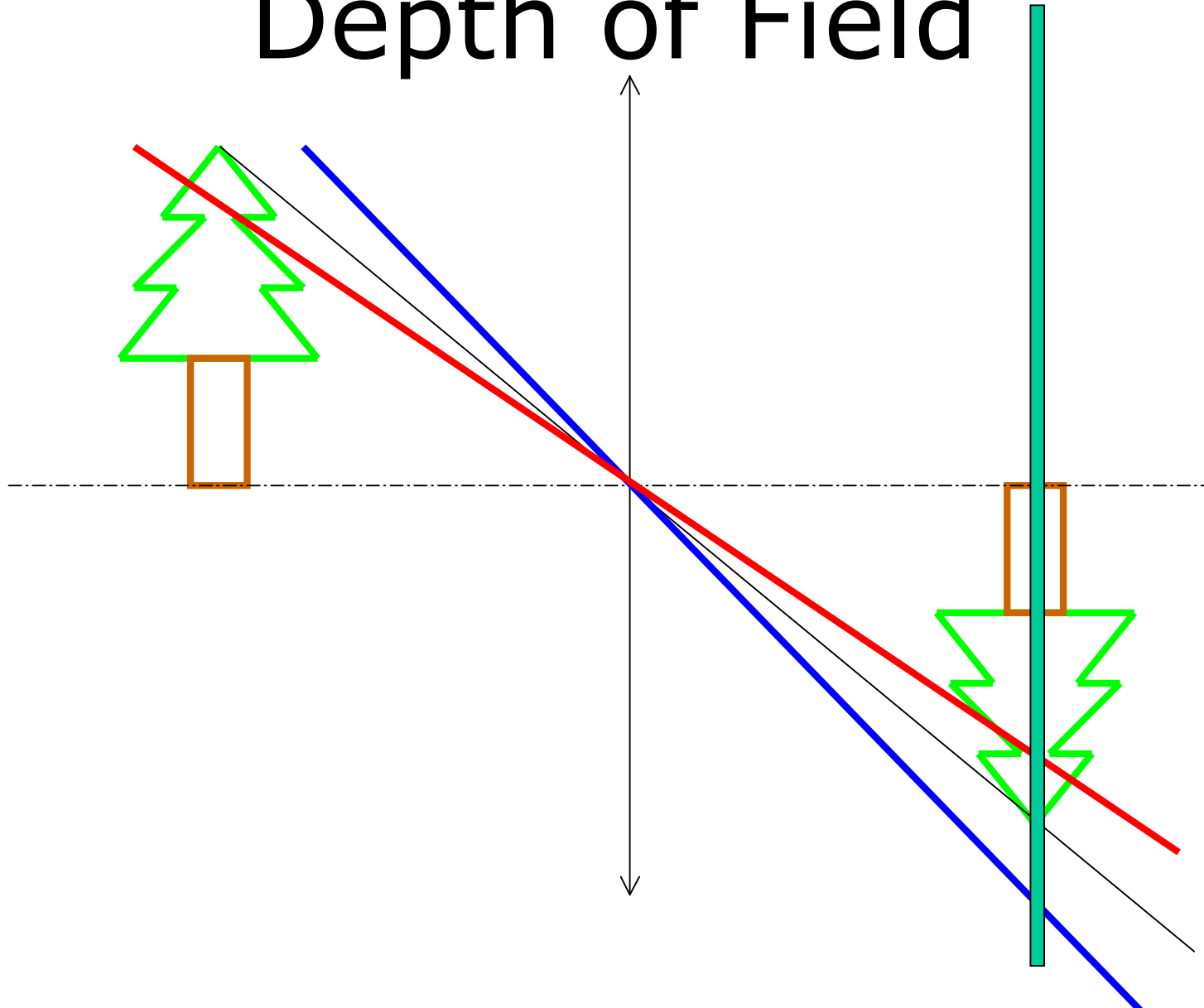
Photographic Principles: Depth of Field

- Making the aperture smaller reduces the number of light paths
- This increases depth-of-field
- A pinhole camera has infinite DOF

Photographic Principles: Depth of Field



Photographic Principles: Depth of Field

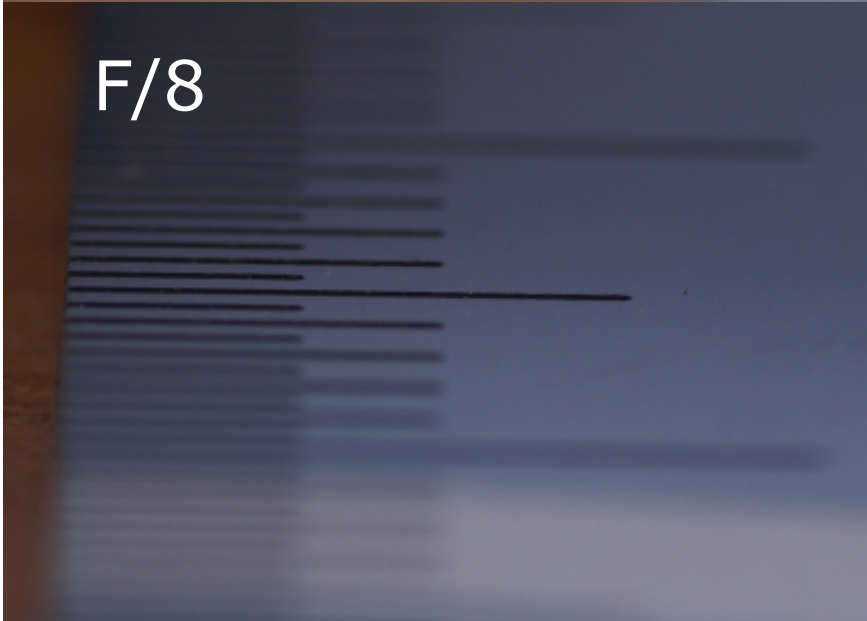


Photographic Principles: Depth of Field


F/2.8

A photograph taken at an aperture of F/2.8. It shows a close-up of a brown, textured surface on the left, which is in sharp focus. The background, which appears to be a blue sky with some faint horizontal lines, is significantly blurred, illustrating a shallow depth of field.

F/8

A photograph taken at an aperture of F/8. The brown textured surface on the left is still in focus, but the background is less blurred than in the F/2.8 image, showing more detail of the horizontal lines. This represents a moderate depth of field.

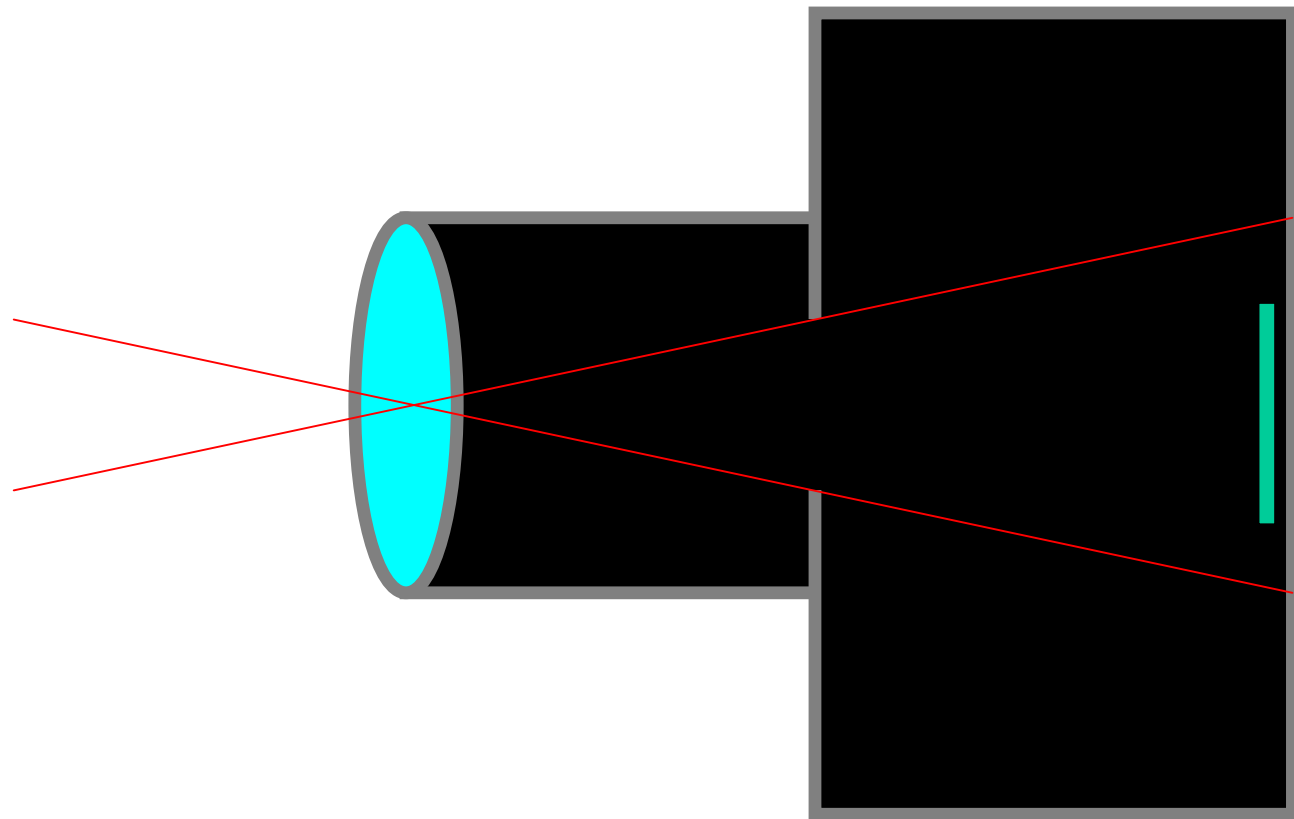
F/22

A photograph taken at an aperture of F/22. The brown textured surface on the left is in focus, and the background is very sharp and clear, showing many distinct horizontal lines. This represents a deep depth of field.

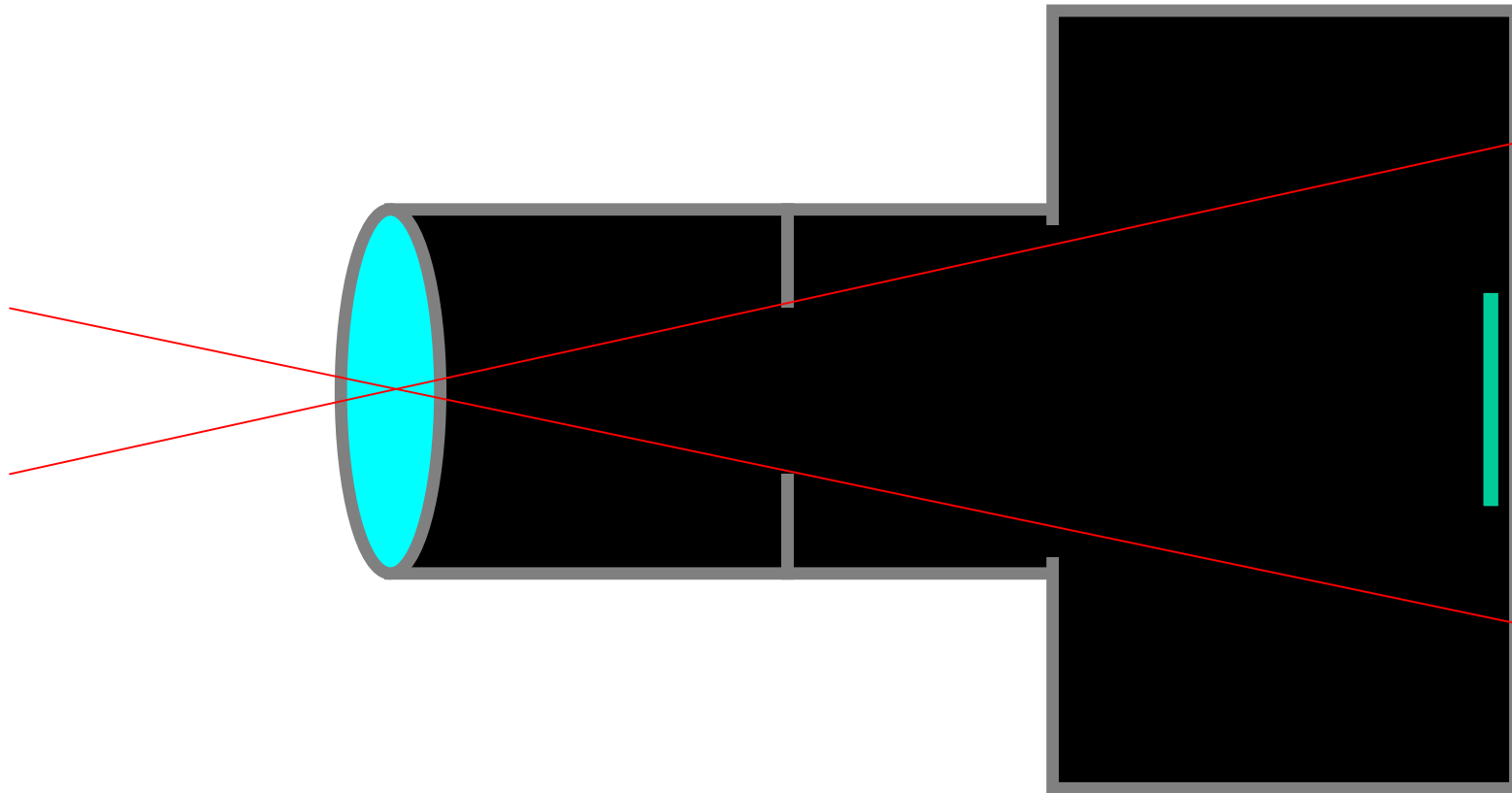
Photographic Principles: Depth of Field

- Three problems with “stopping down”.
 - Diffraction becomes significant
 - Dirt and imperfections appear
 - You need a LOT more light
 - This is compounded by the fact that you lose light as you move the lens away from the sensor

Photographic Principles:



Photographic Principles:



Equipment

- Thus we need special equipment to solve the problems:
 - How do you focus up close?
 - How do you hold the camera steady enough to both frame the shot (in 3D) and perform the long exposure?
 - How do you get enough light into the camera?

Focusing Close: Macro Mode



MF

LAY

ME

Focusing Close: Macro Mode



Focusing Close: Macro Mode



Focusing Close: Macro Mode

MACRO

f 210

150

0.38m/1.3ft MACRO

Focusing Close: Macro Mode, DSLR vs P&S



Focusing Close: Macro Mode, DSLR vs P&S



Focusing Close: Closeup filters (diopters)



Focusing Close: Closeup filters (diopters)



Focusing Close: Extension Tubes and Teleconverters



Focusing Close: Extension Tubes and Teleconverters



Focusing Close: Reversing Lenses



Focusing Close: Macro Lenses



Focusing Close: Macro Lenses



Focusing Close: Macro Lenses



Focusing Close: Macro Lenses





Holding the camera: Supported

- A tripod is useful for good shots
 - Ball heads are often more useful than pan heads
- Watch for the wind
- Disable stabilisers
- Set focus and shift the camera or subject
 - Focus rails can help



Holding the camera: Handheld

- Tuck arms in
- Hold breath
- You will rock slightly, try and time it to when you're moving the least
- If available, turn on image stabilisation
- Try using the short timer
- Try using continuous drive

Lighting the scene: Daylight

- Bright daylight in the early morning or mid afternoon seems to work well
- Make sure the lens doesn't shadow the subject
- Keep in mind which way the light is coming from

Lighting the scene: Daylight



Lighting the scene: Daylight



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Lighting the scene: Flash



Lighting the scene: Flash



Lighting the scene: Flash



Lighting the scene



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Lighting the scene

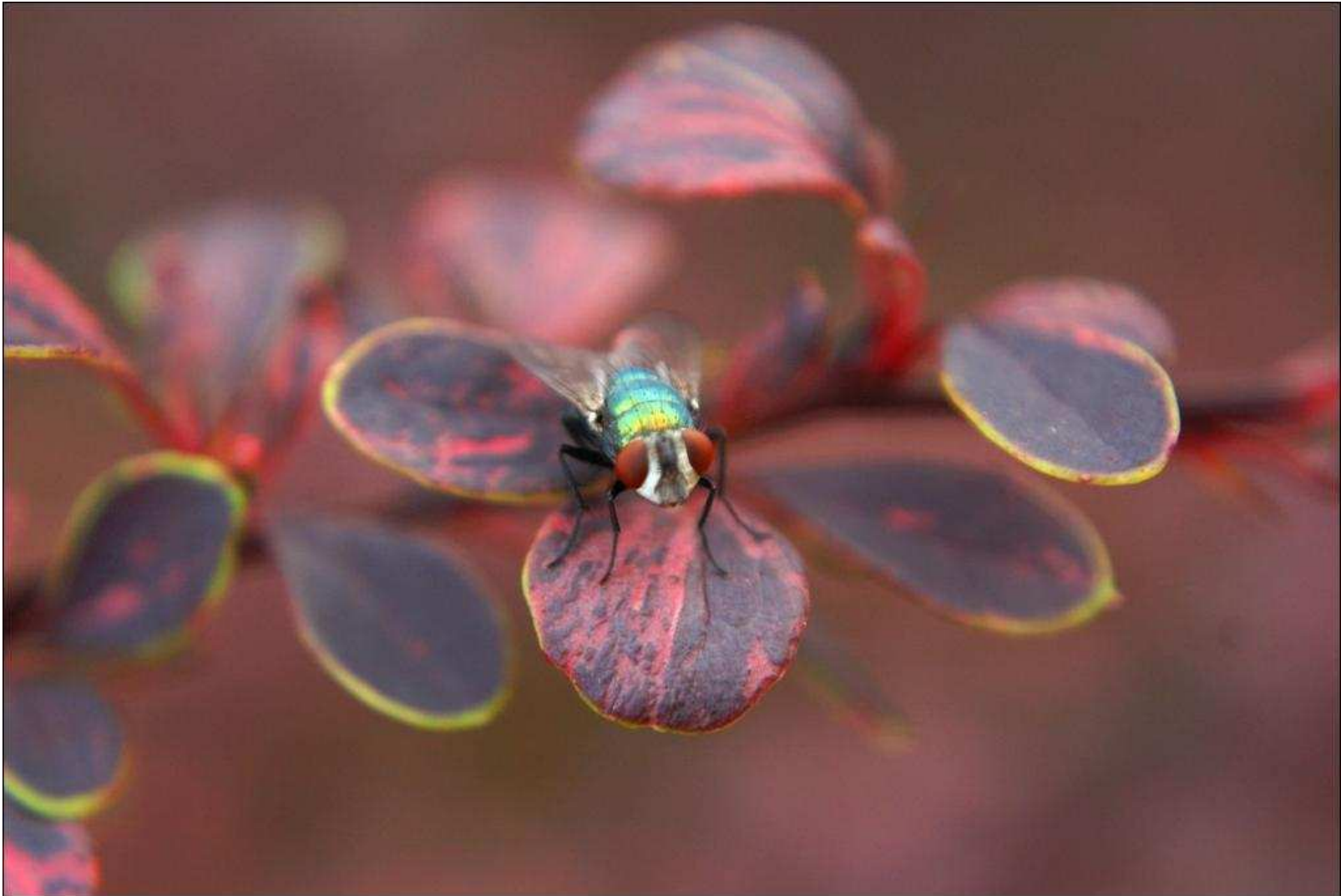




Artistic Issues

- Finding a Subject
- Composition in 3D
- Background and Bokeh

Finding a Subject



Finding a Subject



Finding a Subject



Finding a Subject



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Finding a Subject



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Finding a Subject



Composition in 3D



- Narrow DOF means one must compose in depth as well as in framing.

Composition in 3D



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Composition in 3D



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Composition in 3D



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Background and Bokeh



- The background is just as important as the foreground
- The artistic qualities of the defocused background is sometimes called “Bokeh”

Background and Bokeh



Background and Bokeh



Background and Bokeh



Background and Bokeh



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Background and Bokeh



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Background and Bokeh



Background and Bokeh



Hands-On



- Find interesting angles on everyday objects
- Keep depth-of-field in mind
- Think about what the background will look like
- Hold the camera steady or put it on something